ABSTRACT

A weighting function is created according to an arbitrary bio-movement correction range and a projection data angle for back-projection (width in the view direction used for reconstruction), set by a user, by considering the degree of the bio-movement and redundancy. By using this weighting function, an image reconstruction is performed.

The bio-movement correction range is set as a correction angle width index ε expressing the width guaranteed as a slope portion of the weighting function. The projection data angle for back-projection (data width) is determined by considering the data redundancy, SN, time width (time resolution) contributing to the image.

By determining the weight according to these two parameters, it is possible to apply reconstruction of projection data of all the scan ranges in the reconstruction of the tomogram and prevent lowering of the data contribution ratio as well as reduce the motion artifact, thereby obtaining a high-quality image.